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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/505,197
Filing Date: June 10, 2005
Appellant(s): HOUGE ET AL.

Steven F. Hanke
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed May 12, 2008 appealing from the Office action mailed December 12, 2007.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

5,463,977	Manada et al	11-1995
5,466,934	Adams et al	11-1995

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1, 2, 6 to 8, 11 to 13, 17 and 18 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Manada et al (5,463,977) in view of Adams et al (5,466,934).

The Manada et al reference teaches a system for monitoring and controlling a fabrication process, note entire reference. There is a subsystem that analysis the crystallographic information of the material. The subsystem comprises a means to reflect a light off the material to a detector. The information is then feed to a control means. The data in the control means then is used to control one of the other subsystems in the fabrication process, note figures. The sole difference between the instant claims and the prior art is the plurality of subsystems. However, in the absence of unexpected results, it would have been obvious to one of ordinary skill in the art to determine through routine experimentations the optimum, operable subsystems in the Manada et al reference in order to manufacture the work piece in conjunction with the monitoring subsystem.

The Manada et al reference furthers differs form the instant claims in the measurements. However, the Adams et al reference teaches measuring crystal properties, note figures and col. 2. It would have been obvious to one of ordinary skill in the art to modify the Manada et al by the teachings of the Adams to measure more then thickness in order to create a more uniform crystal.

Claims 3 to 5, 9, 10 14 to 16 and 19 to 21 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Manada et al (5,463,977) in view of Adams et al.

The Manada et al and Adams references are relied on for the same reasons as stated, supra, and differ from the instant claims in means to monitor the work piece and the analysis. However, in the absence of unexpected results, it would have been obvious to one of ordinary skill in the art to determine through routine experimentations the optimum, operable means to monitor and analysis in the Manada et al reference in order to increase the accuracy of the monitoring and increase the usefulness of the data.

(10) Response to Argument

Appellants' argument concerning the teachings of the Manada et al reference is noted. However, the reference only teaches the problems associated with one monitoring means. That is an RHEED system. There is no mention of other systems in the reference and the reference is thus limited in scope to problems with just RHEED systems.

Appellants' argument concerning the Adams et al reference has been considered and not deemed persuasive. The Adams et al reference teaches a means and method of obtaining information about crystal growth using a scanning electron microscope. The information obtained can be thickness, orientation, grain size or morphology of the grown layer. The system employed by Adams et al is not a RHEED system. The systems are two independent and different systems. Appellants have shown no evidence on the record to state that the system of Adams et al is the same as an RHEED system and with the same problems.

Appellants' argument concerning the combination of references is noted. However, it is pointed out that the rejection set forth by the examiner is not one of changing the monitoring system around but changing the information obtained by the monitoring system. The examiner is combining Adams et al with Manada et al to show that it was known to one of ordinary skill in the art to obtain other characteristics of a growing layer then done in Manada et al.

Appellants' argument concerning the teaching away has been considered and not deemed persuasive. The Manada et al reference teaches away from using one and only one type of monitoring system and a very specific one at that RHEED. There is no other teaching in Manada et al as to not using any other systems. Appellants are taking a very limited teaching and applying broadly to overcome the rejection. Again, appellants have submitted no evidence to show that the system of Adams has the same problems of RHEED or that said problems were known to one of ordinary skill in the art. Further, as point out above the examiner is not changing the apparatus or method in the rejection but merely what information is obtained.

Appellants' argument concerning claims 2 and 12 is noted. However, the combination of references does teach a feedback system and an analysis of the information obtained note figures. The two references teach control loops for growth.

Appellants' argument concerning claims 3 and 13 has been considered and not deemed persuasive. The combination of references teaches the use of the information obtained to generate and use in growth, note figures the control loops regulating the growth.

Appellants' argument concerning claims 4, 14 and 15 is noted. However, the examiner in the rejection admitted that the reference do not specifically teach the roughness. However, it is well within the skill of the art to use and monitor morphology changes in the grown layer. The changes in the surface roughness is an indication of grow and progress during growth.

Appellants' arguments concerning claims 5, 6, 16 and 17 is noted. Appellants have shown no evidence or given any reasoning as to how the claims are outside the skill of the art in view of the references applied and the reasoning set forth by the examiner in the rejections.

Appellants' argument concerning claims 7, 8, 10, 18, 19 and 21 has been considered and not deemed persuasive. The references in the figures show a workpeice or substrate holder, a means to generate a beam, controlling the relative movement of the two, generating data, using a computer to analyis the date and further scan. No difference is seen between the instant claims and the prior art.

Appellants' argument concerning claims 9 and 20 is noted. However, it is the examiner's position that the use of another beam is well within and obvious to one of ordinary skill in the art done in order to increase the amount of data obtained during growth. This in turns leds to better control of the growing layer.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Robert Kunemund

/Robert M Kunemund/

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/Michael Kornakov/

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